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ABSTRACT

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Creativity and Self-Concepts in First-Grade Children: Is there a Link?

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Running Head: Creativity and Self-concepts in Children

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Abstract

A creativity test along with both a self-concept battery and a behavior rating scale were administered to a group of first-grade children to see whether there existed a link between certain self-concepts such as anxiety, dependency, ego strength, attention, sense of identity, social conformity, behavior, intellectual and school status, physical appearance, popularity, and happiness with creativity. The scores on the various self-concepts were obtained by pre-determined scales on two of the tests. The creativity measure was graded objectively from an adaptation of Torrance's Creativity Measure. The results indicated that social conformity was the best predictor of creativity, accounting for 20% of the variance. The second best predictor was the child's sense of identity which accounted for about 5% of the total variance. The remaining variables contributed only a small amount of the total variance accounted for.

Creativity and Self-Concepts in First-Grade Children:
Is there a Link?

Prior research in the area of creativity testing in younger children(ages five to eight) has been very limited. Although prior research with older children and adults has suggested that an exsistence of a very general attitude toward experience and independence of judgement and originality have shown to be characteristic of creative individuals. Researchers have also found that individuals who refused to yield to strong pressure from their peers tended to describe themselves as being much more "original" and "artistic", thereby tending to be more creative. Cattell and Butcher(1968) also found that creative researchers tended to be intelligent, have a strong ego, and slightly more dominant than non-creative researchers.(Vernon,1970)

One of the main reasons that researchers haven't bothered testing for creativity in younger children is because it is their belief that all younger children tend to be able to come up with "off-the-wall" answers that would tend to show them as being creative, when in fact they just

didn't have enough of life's experiences under their belts to know any better. It was because of this assumption that I decided to test this hypothesis and hopefully reject it. It was my belief that younger children as well as older children would exhibit differences in creativity as well as showing similarities in the different areas of self-concepts that were shown to be linked to creativity.

Materials

In this experiment, there were three tests that were administered to the children. The first test that was administered to the children was "The Way I Feel About Myself", which was an 80 question inventory developed by Piers and Harris (1969) which was designed to see how children perceived themselves in different areas such as behavior, intellect, physical appearance, anxiety, popularity, and happiness. The second test that was used was the "Burks' Behavior Rating Scales" developed by Burks in 1977. This test was designed to test the child's observed behavior on nineteen different scales. This test contained 110 questions. The third test administered was used to test for creativity. The test consisted of one question and a picture taken from "Thinking Creatively with Words" developed

by Torrance in 1966. This test was used with adaptations in the rating scale in order to better predict creativity in younger children, since the test was originally designed to test for creativity mainly in fourth-grade and older children.

Design and Procedure

Testing occured in three different sessions. The first five hour session was used to test half of the subjects on the Piers-Harris self-concept scale. I then returned on the following day to test the other half of the subjects in another five hour session on the same self-concept scale. I then gave the two first-grade instructors copies of the Burks' Behavior Rating Scale in order for them to answer the necessary questions on each individual child. This was to be done at their own leisure. Then approximately two weeks later, I went back to test the kids in another five hour session on Torrance's creativity measure.

In this study, I attempted to see whether first-grade children would indeed exhibit the same characteristics as older children in the area of creativity and personality. It was assumed by researchers(and still is) that you couldn't accurately test younger children for creativity because these

children haven't experienced enough of life. In other words, researchers believed that younger children would all test out as being somewhat creative because of their wild imaginations. Researchers also believed that you couldn't look for specific personality traits that would be linked to creativity in younger children because at these younger ages, their personalities would be constantly changing according to their life experiences.

If this is assumed to be true, then I would expect to find no specific personality trait linked to creativity. I would also be expected to find that all of my subjects would tend to score somewhat on the creative side. I designed the following study to test these hypotheses.

Method

Subjects

Fifty-five first-grade students served as voluntary subjects. Out of the fifty-five subjects, twenty-four were males. The fifty-five subjects came from all ethnic backgrounds and socio-economic classes. The students were members of two first-grade classes at Live Oak School located in the Lodi Unified School District.

During the first five hour session, approximately half of the subjects were given the Piers-Harris self-concept scale. Each of the eighty items were read seperately to each individual and their responses recorded directly on the test itself. During the second five hour session, the remaining subjects were tested in the same manner using the same Piers-Harris inventory. The second session took place one day after the first session. After the second session was over, the Burks Behavior Rating Scale was given to both of the first-grade instructors to be filled out at their own leisure. This test requires a rater(someone who has viewed the child's behavior over a relatively long period of time) to go through the 110 question inventory and rate each child's behavior from 1 to 5 on each of the questions, with "1" meaning not noticing the behavior at all, and "5" having noticed the behavior to a very large degree. I then revisited the school two weeks later to administer the creativity portion of the study. This was done in one five hour session with each child being tested individually. Each subject was told to look at a picture in which strings were attached to the clouds. The strings were long enough to touch the ground. I then told the subjects to imagine that clouds had strings attached to them which hang down to the

earth. Then the question "What would happen or what would you do if clouds had strings attached to them?" was asked. I then listened to the responses given to me by the child and rated them on a three point scale with "0" meaning no creativity at all. For a child to receive a creativity score of "0", he or she had to not respond to the question at all, or say something like "I don't know". A score of "1" meant that the child at least made an effort to answer the question, but answered in only a semi-creative way. Responses such as "cut them off", "swing on them", or "climb on them" were given a score of "1". A score of "2" was obtained when the child showed some form of imagination in their response. For example, one child answered that she would climb up the string so she could see what God looked like. Another student answered that she would "climb up the string,build a swimming pool up in the clouds,drag a hose from the ground up to the pool in order to fill it, and then invite the Care Bears over to swim with her." She then said "The Care Bears live up in the clouds y'know".

I then took the scores from the Piers-Harris inventory for each individual student and transfered each of their responses to an Op-Scan sheet. After this was done, I took

the Burks Behavior Rating Scales for each of the subjects and hand scored them. I then put the scores into their appropriate sub-scales. Then I transfered each of the students sub-scale scores to their own Op-Scan sheet sheet along with their Piers-Harris scores. Then the subject's creativity score was transfered onto the computer sheet in order for the whole thing to be processed.

Results

The first step in analyizing the data was to do scattergrams on all of the independent variables as they related to the dependent variable "creativity". All of the scattergrams showed a some-what linear relationship between the independent and dependent variable. After seeing that the relationships were of a simple-linear fashion, I then proceeded to do a Pearson product-moment correlation on all of the variables. The correlation matrix revealed a substantial relationship between creativity and the following independent variables: (1), Dependency, $r(54) = .31, p<.05$ (2), Ego Strength, $r(54) = .29, p<.05$ (3), Attention, $r(54) = .35, p<.05$ (4), Identity, $r(54) = .38, p<.05$ and (5), Social Conformity, $r(54) = .46, p<.01$.

Insert Table 1 Here

There was a slight relationship between the other variables, but not enough to meet the statistical significance level of $p<.05$.

After I had looked over the results of the Pearson product-moment correlation matrix, I decided to run a step-wise multiple regression to see which of the twelve independent variables contributed the most to Creativity, and in what order. Not surprisingly, I found the variable "social Conformity to have the most variance accounted for in Creativity. Social Conformity ended up accounting for 21% of the total variance, and was significant at the $p<.01$ level. What was surprising was the fact that none of the other variables that correlated highly to Creativity ended up not contributing to too much of the total variance. In fact, none of the other eleven variables even made the $p<.05$ level of statistical significance.

Insert Table 2 Here

I then decided to run another step-wise multiple regression without the variable "Social Conformity" to see if there might have been some overlap with the other variables. The second step-wise multiple regression showed this to be the case. Now the variable "Identity" which was second behind Social Conformity and accounted for only 4% of the total variance after the first regression, now showed 14% of the variance accounted for after the second step-wise multiple regression. The real surprise though, was with the variable "Attention". Ranking 12th and only accounting for 1% of the total variance after the first step-wise multiple regression which included the variable "Social Conformity" was run, it then ranked a high 2nd and accounted for 9% of the total variance. This was due to the fact that "Social Conformity" and "Attention" were highly correlated to one another, and once Social Conformity was removed, you were able to see how much of the true variance was accounted by "Attention" alone.

Insert Table 3 Here

Discussion

The present data allow me to reject the hypothesis that

all younger children between the ages of five and seven are creative. In fact, the mean score for Creativity for the fifty-five subjects was .89. On the average, all of the subjects that were tested showed only a relatively small amount of creativity. The data also showed that there were some similarities between these children and older people in the categories of Social Conformity and Ego Strength. The younger children, like older children, who refused to yield to strong pressure from their peers and who also had a strong sense of self, tested out as being more creative. This supports the view that people in general who don't conform to strong peer pressure and who have a good sense of themselves, tend to be more "original" and "artistic", thereby tending to be more creative.(Vernon,1970)

Although the other variables didn't show much of a relationship to Creativity, it was probably due to the fact of a very crude creativity scale. If a seven point scale was used instead of the three point scale, things would have probably turned out much different since the creativity test would be much more sensitive in picking up small variations. Also, I believe that the researchers have a valid point when they point out that younger children don't have enough of

life's experiences under their belts yet. It is my belief, along with other researchers, that if these children were about two years older, the results once again would have been slightly different.

Table 1

Pearson Product-Moment Correlation

	BANX	BDEP	BEGO	BATT	BIDE	BSOC	CREA	PHBE	PHIN	PHAP	PHAN	PHPO
BANX	1.00	-.02	.14	.08	-.06	-.04	.10	.18	.08	.14	.20	.17
BDEPEND	-.02	1.00	.55	.57	.18	.44	.31*	-.06	-.23	-.07	.28	-.09
BEGOSTR	.14	.55	1.00	.83	.35	.61	.29*	.07	-.03	-.01	.41	.09
BATTEN	.08	.57	.84	1.00	.13	.74	.35*	.15	-.07	-.07	.36	.12
BIDENT	-.06	.18	.35	.13	1.00	.38	.38*	.12	.13	.02	.16	.01
BSOCCON	-.04	.44	.61	.74	.38	1.00	.46**	.06	-.01	-.06	.18	.00
CREATIV	.10	.31	.29	.35	.38	.46	1.00	.18	.11	-.01	.07	.03
PHBEHAV	.18	-.06	.07	.15	.13	.06	.18	1.00	.16	.07	.32	.54
PHINTEL	.08	-.23	-.03	-.07	.13	-.01	.11	.16	1.00	.52	.10	.66
PHAPPER	.15	-.07	-.01	-.07	.02	-.06	-.01	.07	.52	1.00	.29	.31
PHPOP	.17	-.09	.09	.12	.01	.00	.03	.54	.66	.31	.32	1.00
PHHAPPY	-.15	.17	.17	.14	.18	.09	.13	.22	.21	.23	.25	.33
PHANX	.20	.28	.41	.36	.16	.18	.07	.32	.10	.29	1.00	.32

	PHHAPPY
BANX	-.14
BDEPEND	.17
BEGOSTR	.17
BATTEN	.14
BIDENT	.18
BSOCCON	.09
CREATIV	.13
PHBEHAV	.22
PHINTEL	.21
PHAPPER	.23
PHANX	.25
PHPOP	.34
PHHAPPY	1.00

* Indicates significance at the $p < .05$ level.

** Indicates significance at the $p < .01$ level.

Table 2

Multiple Regression Summary Table

Step	Variable	Sig.	Multiple R	R Square	Overall F
1	BSOCCON	.000	.45532	.20731	13.86132
2	BIDENT	.068	.50682	.25687	8.98701
3	BANX	.280	.52332	.27386	6.41142
4	BDEPEND	.344	.53561	.28688	5.02868
5	PHBEHAV	.325	.54863	.30100	4.21997
6	PHANX	.270	.56452	.31868	3.74199
7	PHINTEL	.369	.57479	.33039	3.31283
8	PHPOP	.211	.59413	.35299	3.13709
9	PHHAPPY	.616	.59719	.35663	2.77163
10	PHAPPER	.587	.60081	.36098	2.48550
11	BEGOSTR	.607	.60411	.36495	2.24647
12	BATTEN	.390	.61331	.37615	2.11029

Table 3

Multiple Regression Summary Table with BSOCCON Removed

Step	Variable	Sig.	Multiple R	R square	Overall F
1	BIDENT	.004	.37772	.14267	8.82017
2	BATTEN	.016	.48451	.23475	7.97594
3	BEGOSTR	.154	.51471	.26493	6.12708
4	BANX	.277	.53129	.28227	4.91598
5	BDEPEND	.306	.54554	.29761	4.15235
6	PHINTEL	.384	.55562	.30871	3.57262
7	PHPOP	.344	.56736	.32189	3.18724
8	PHBEHAV	.235	.58528	.34255	2.99597
9	PHANX	.369	.59528	.35435	2.74419
10	PHHAPPY	.625	.59824	.35789	2.45246
11	PHAPPER	.623	.60128	.36154	2.21358

References

Vernon, P.E. (1970). Creativity. Great Britain.